

**PATENT COOPERATION TREATY**

**PCT**

**INTERNATIONAL PRELIMINARY EXAMINATION REPORT**  
(PCT Article 36 and Rule 70)

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| Applicant's or agent's file reference<br>cal 85148  | <b>FOR FURTHER ACTION</b>   |   | See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416) |
| International application No.<br>PCT/IB 02/03113  | International filing date ( <i>day/month/year</i> )<br>08.08.2002 | Priority date ( <i>day/month/year</i> )<br>08.08.2002 |   |
| International Patent Classification (IPC) or both national classification and IPC<br>H04Q3/00 |   |   |   |
| Applicant<br>TECHNOLUX HOLDING S.A. et al.  |   |   |   |

  

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|----|---|
| 1. | This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.  |
| 2. | <p>This REPORT consists of a total of 4 sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of 2 sheets.</p>  |
| 3. | <p>This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> <li>I    <input checked="" type="checkbox"/> Basis of the opinion</li> <li>II   <input type="checkbox"/> Priority</li> <li>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li> <li>IV   <input type="checkbox"/> Lack of unity of invention</li> <li>V    <input checked="" type="checkbox"/> Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li> <li>VI   <input type="checkbox"/> Certain documents cited</li> <li>VII <input type="checkbox"/> Certain defects in the international application</li> <li>VIII <input type="checkbox"/> Certain observations on the international application</li> </ul> |

  

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| Date of submission of the demand<br><br>01.03.2004  | Date of completion of this report<br><br>03.09.2004                         |
| Name and mailing address of the international preliminary examining authority:<br><br><div style="display: flex; align-items: center;"> <div>             European Patent Office - P.B. 5818 Patentlaan 2<br/>             NL-2280 HV Rijswijk - Pays Bas<br/>             Tel. +31 70 340 - 2040 Tx: 31 651 epo nl<br/>             Fax: +31 70 340 - 3016           </div> </div> | Authorized Officer<br><br>Larcinese, C<br><br>Telephone No. +31 70 340-4249 |



**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/IB 02/03113

**I. Basis of the report**

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

**Description, Pages**

1-19 as originally filed

**Claims, Numbers**

1-5 received on 06.08.2004 with letter of 06.08.2004

**Drawings, Sheets**

1/4-4/4 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).  
☐ the language of publication of the international application (under Rule 48.3(b)).  
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority in written form.  
☐ furnished subsequently to this Authority in computer readable form.  
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.  
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:  
☐ the claims, Nos.:  
☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

|                               |             |     |
|-------------------------------|-------------|-----|
| Novelty (N)                   | Yes: Claims | 1-5 |
|                               | No: Claims  |     |
| Inventive step (IS)           | Yes: Claims | 1-5 |
|                               | No: Claims  |     |
| Industrial applicability (IA) | Yes: Claims | 1-5 |
|                               | No: Claims  |     |

2. Citations and explanations

**see separate sheet**

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

The invention discloses a telecommunication network (claim 1) being provided for delivering signals and data between a plurality of local accesses, said local accesses including local users, and a plurality of network accesses through local exchanges. The local exchanges include a multi-protocol gateway device and a local routing device. The local accesses are connected through first linking means to local centralising devices, which are in turn connected to the local exchanges through second linking means. The local exchanges are connected through third linking means to the network accesses.

Such a system is disclosed in the closest prior art D1=EP-A-1 117 214 (TERAYON COMM SYSTEMS INC) 18 July 2001 (2001-07-18)

The differences between the document D1 and the invention is the following: the second and third linking means are constituted by bidirectional satellite radio bridges.

The problem solved by such technical features is that in conventional telecommunications systems, the traffic is collected by means of physical connections.

The present solution consists of providing a bidirectional satellite radio bridge between the local user and the first local exchange as well as between the local exchange and the network access. This solution allows to use only one type of connection of the bidirectional satellite type, while only the connection between the local user and the centralising devices (i.e. Multiplexer/Demultiplexer) is not of the radio type.

Therefore, the subject-matter of claims 1-5 is new and inventive.

## CLAIMS

1. Telecommunications and telephony network (AT), which can control mobile or fixed services, of the type comprising at least one network exchange core, which  
5 guarantees integrated connectivity between a plurality of local exchanges (CL) and local residents' exchanges, characterised in that each of the said local exchanges (CL) includes means for compression and conversion (GV) and means (R) for routing, which can send telecommunications  
10 and telephone flows which are incorporated, digitised, and based on at least one pre-determined protocol, local users (UL) also being able to reach the said local exchanges (CL) by means of bidirectional satellite radio bridges (RLD).
- 15 2. Telecommunications and telephony network (AT) according to claim 1, characterised in that the said means for compression and conversion (GV) transform the digital or analogue signals which contain the information into data packages which are based on the said pre-determined  
20 protocol, also implementing algorithms for compression of the information.
3. Telecommunications and telephony network (AT) according to claim 1, characterised in that the said pre-  
25 determined protocol consists of an IP protocol (Internet Protocol).
4. Telecommunications and telephony network (AT) according to claim 1, characterised in that it comprises an  
30 architecture which is based on different levels, which are subdivided hierarchically, wherein the lowest levels comprise a first series of connections (C0, C1) of the said local users (UL) to devices (MD) for processing the signal, and of the said devices (MD) for processing, to the said  
35 local exchanges (GV).

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ART 34 AMDT

5. Telecommunications and telephony network (AT) according to claim 4, characterised in that the said architecture comprises a series of high levels, relative to connections (C2) between the said local exchanges (GV), a series of local resident, regional and national exchanges, and a plurality of nodes for access to networks of further network service companies (AG), the said architecture also being based on transport in an urban area with a plurality of remote cells (CR).

10

6. Telecommunications and telephony network (AT) according to claim 1, characterised in that, downstream from each of the said means (R) for routing, the digital signals (C6) travel to at least one satellite connection node (ST), or are sent to at least one other point of the said network (AT).

15

7. Telecommunications and telephony network (AT) according to claim 6, characterised in that the connections between the various points of the said network (AT) are formed with a type of direct connection between the said devices (MD) for processing and the said local exchanges (CL), or by means of a connection formed by means of intermediate repeaters between the devices (MD) for processing and the local exchanges (CL).

20

8. Telecommunications and telephony network (AT) according to claim 7, characterised in that there leads to each of the said local exchanges (CL) at least one flow of data (C7) of the type E1, with 2 Mbits, standard G.703, obtained from the said devices (MD) for processing the local signal, or from accesses to the networks of other service companies (AG), based on SS7 standard data flows (C8), individual connections to local users, and/or points of access for mobile telephony.

30

9. Telecommunications and telephony network (AT)

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according to claim 3, characterised in that the said means  
(R) for routing carry out a process of routing of the  
telephone calls, based on the telephone numeration which is  
specific to the telephone networks, replacing the standard  
5 telephone numeration at network level with addresses  
according to the said IP protocol, whereas the said means  
for conversion and compression (GV) are able to implement  
algorithms for compression of the digital signals relative  
to the vocal information, and to the addressing within the  
10 IP protocol standard, thus obtaining a programmable,  
variable reduction in the flows of data, which is up to 10  
times or more than the nominal value.

10. Telecommunications and telephony network (AT),  
15 substantially as described and claimed and for the purposes  
specified.

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ART 34 AMDT